Explanation of Significant Differences

ROWE INDUSTRIES SITE

VILLAGE OF SAG HARBOR
Suffolk County, New York

EPA

Region 2 July 1997

INTRODUCTION

In accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 117(c) and Section 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan, if after the adoption of a final remedial action plan, such action differs in any significant respects from the final plan, an explanation of the significant differences and the reasons such changes were made must be published.

The 1992 Record of Decision (ROD) for the Rowe Industries site calls for the excavation and off-site disposal of volatile organic (VOC)-contaminated soils within three dry wells and the former drum storage area and the installation of a ground-water extraction and treatment system.

Data collected during remedial design soil sampling revealed that the extent of contaminated soils in the former drum storage area is more widespread than estimated in the ROD. To efficiently and cost-effectively address the increase in volume of contaminated soil requiring remediation, the selected remedy is being modified as follows: 1) the top four feet of contaminated soil in a portion of the former drum storage area will be excavated and replaced with clean soil; 2) the unsaturated soils (above the water table) will be treated in-situ using soil vapor extraction (SVE); and 3) the saturated soils (below the water table) will be treated in-situ using air sparging. Under the modified remedy, the dry wells will still be excavated and the contaminated ground water will still be extracted and treated.

This Explanation of Significant Differences (ESD) will become part of the administrative record file for the Rowe Industries site. The entire administrative record for the site, which also includes the Remedial Investigation Report, Feasibility Study Report, ROD, Proposed Plan, and other reports and documents related to the site, is available for public review at the following location:

John Jermain Library
Main Street
Sag Harbor, NY 11963

The Administrative Record file is also available for public review at the EPA Region II office at the following location:

U.S. Environmental Protection Agency
290 Broadway, 18th Floor
New York, New York 10007-1866
Hours: 9:00 am - 5:00 pm (*Monday - Friday*)

The changes to the selected remedy are not considered by the Environmental Protection Agency (EPA) and the New York State Department of Environmental Conservation (NYSDEC) to have fundamentally altered the remedy selected in the ROD. The remedy remains protective of human health and the environment.

SUMMARY OF SITE HISTORY, CONTAMINATION PROBLEMS, AND SELECTED REMEDY

The Rowe Industries site is situated in the Village of Sag Harbor, Suffolk County, New York. It is located on the south fork of eastern Long Island, approximately 75 miles east of New York City.

The site is comprised of an eight-acre industrial facility. The most prominent feature of the property is a small factory covering one acre of the site with the remainder containing a lawn area, parking lot, woods and a small pond. Residences are located on both sides of the facility.

The site is underlain with mostly medium to fine sand with some gravel and clay. Sag Harbor Cove is about 3,000 feet northwest of the site. Ligonee Brook, which flows into Sag Harbor Cove, is to the east and north of the site.

Approximately 2,000 people reside in the Village of Sag Harbor. Much of the area is served by private wells.

The Rowe Industries facility was constructed in 1953 to manufacture small electric motors and transformers. Chlorinated solvents were used to degrease oil-coated metals during the manufacturing process. Waste solvents were discharged into on-site dry wells and/or stored behind the facility, where they leaked into the soils below. The original building was completely destroyed by a fire in 1962, and was rebuilt that same year to twice the size of the original facility.

In November 1965, Aurora Plastics purchased the plant and its equipment from Rowe Industries. The manufacture of the motors continued and Nabisco acquired Aurora Plastics in the early 1970's. The facility remained active until 1974, when Nabisco relocated its operations and the building was closed.

The building remained shuttered until it was sold to Sag Harbor Industries in 1980. The facility is currently used to manufacture electronic devices. Solvents are no longer used in the manufacturing process.

Ground-water contamination was first discovered by the Suffolk County Department of Health in 1983. Water from a private well near the site revealed contamination by three solvents, 1,1,1-trichloroethane (TCA), 1,1,2-trichlorethylene (TCE), and tetrachloroethylene (PCE). Further investigations determined that a ground-water contaminant plume extended from the former Rowe Industries facility northwest to Ligonee Brook. Based on the extent of ground-water contamination, the Rowe Industries site was placed on the National Priorities List on July 7, 1987.

In September 1988, EPA and Nabisco entered into an Administrative Order on Consent, Index NO. II-CERCLA-80213, for the performance of a remedial investigation and feasibility study (RI/FS) to determine the nature and extent of the contamination at and emanating from the site and to identify and evaluate remedial alternatives.

The results of the RI/FS indicated the presence of VOC-contaminated soils on the plant grounds, VOC-contaminated soils within three dry wells, VOC-contaminated ground water underlying the site, and a VOC-contaminant plume extending northwest from the on-site contaminated soil area to Sag Harbor Cove. On September 30, 1992, a ROD was signed. The major components of the selected remedial action are:

- Excavation and off-site disposal of approximately 230 cubic yards of volatile-organic-contaminated soils within the former drum storage area (a portion of the former drum disposal area is located on adjacent residential property).

- Excavation and off-site disposal of approximately 135 cubic yards of contaminated sludge and underlying soils associated with the dry wells.

- Confirmatory sampling to ensure that soils with concentrations above soil cleanup objectives have been excavated.

- Backfilling of the excavated areas with clean fill after excavation.

- Remediation of the ground water by the installation of seven extraction wells which will pump the contaminated ground water to an air stripping treatment system with ultimate discharge of treated water to Sag Harbor Cove.

- Implementation of a monitoring program that includes the collection and analysis of the influent and effluent from the treatment system, and periodic collection of well-head samples. Also, long-term monitoring of the ground water to track the migration and concentrations of the contaminants of concern.

Nabisco, Inc. and Sag Harbor Industries agreed to design and implement the selected remedy. A Consent Decree formalizing this settlement was entered by the Court in April 1994. Soon afterward, Nabisco's consultant, Leggette, Brashears & Graham (LBG) commenced preparation of the remedial design work plan and related planning documents. The work plan was approved in early 1996, at which time, LBG initiated the remedial design. The soil remedial design was completed and approved in February 1997, and the 30% ground water remedial design report is currently under review by EPA.

DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR THOSE DIFFERENCES

As a result of soil samples collected as part of the soil remediation design, the volume of contaminated soils from the former drum storage area requiring excavation increased from the ROD estimate of approximately 230 cubic yards to approximately 1,700 cubic yards. Additionally, it was determined that approximately half of the excavated soils would be so highly contaminated that they would require on-site pretreatment prior to off-site disposal in order to comply with the requirements of Resource Conservation

and Recovery Act (RCRA) Land Disposal Restrictions.

In light of the significant increase in the volume of soils requiring excavation in the former drum storage area, two alternatives to address these soils were evaluated: (1) partial excavation, off-site disposal, and in-situ vapor extraction and (2) full excavation and off-site disposal. In addition, the use of an air sparging system in the former drum storage area to enhance the effectiveness of the ground-water extraction and treatment system was evaluated.

Partial Excavation/Soil Vapor Extraction

This alternative would involve excavating the top four feet of VOC-contaminated soil (approximately 190 cubic yards) from the residential portion of the former drum storage area1, fol-

1 Bushes and trees currently cover the residential portion of the former drum storage area, making the VOC-contaminated soil relatively inacessible. Since clearing this area would be necessary to install the SVE system, the top four feet of soil would be excavated as a precaution to prevent any potential direct contact with contaminated soils.

lowed by backfilling with clean soil. Since the excavated soils are not expected to meet RCRA Land Disposal Restrictions, they would require pre-treatment in an on-site, aboveground, fully-enclosed SVE system prior to off-site disposal. In the SVE system, air would be drawn through a series of wells to volatilize the solvents contaminating the unsaturated soils. The extracted vapors would then be treated in an activated carbon unit and monitored before being vented to the atmosphere.

After backfilling the excavation with clean soil, nine SVE wells would be installed in the contaminated, unsaturated soils within the former drum storage area. Five SVE wells would also be placed in the soil above the ground-water contaminant plume located beneath the parking lot at the rear of the facility. Each well would have a radius of influence of approximately 30 feet. The wells would be placed strategically so that their influence would slightly overlap enabling all unsaturated soils to be treated.

The SVE wells would be connected to two granular activated carbon treatment units placed in series behind the facility. Analyses of air samples collected before, between, and after the carbon units would be used to determine when to replace the carbon and to ensure compliance with New York State's ambient guideline concentrations for VOCs. Soil borings would be taken periodically within the former drum storage area to monitor the progress of the soil treatment. Treatment of the contaminated soils to the soil cleanup levels defined in the ROD is expected to continue for approximately six months.

The estimated cost of this alternative is $591,900.

Complete Excavation Alternative

The complete excavation alternative would involve the removal of all unsaturated VOC-contaminated soils above the soil clean up levels defined in the ROD , followed by backfilling with clean soil. The implemation of this alternative, which would be scheduled to coincide with the seasonally low ground water table of seven feet mean sea level, would require the removal and treatment of at least 1,700 cubic yards of contaminated soil. Due to the sandy nature of the soil and the limited work area, sheet piling would have to be installed around the perimeter of the 70 foot by 40 foot excavation down to a depth of 45 feet. At least half of the excavated soil would require pre-treatment in a aboveground, fully-enclosed SVE system prior to off-site disposal. It is anticipated that the on-site treatment system would be in operation for six months, after which the treated soils would be disposed of off-site. Ambient air monitoring during the excavation and monitoring of the treatment system would be performed.

The estimated cost for this alternative would be $1,459,565.

Selected Soils Alternative

Based upon an evaluation of the partial excavation and full excavation alternatives, EPA and NYSDEC have determined that partial excavation is the most appropriate.

Both the partial excavation and full excavation alternatives would be fully protective of public health and the environment, since both alternatives would eliminate the source of the contaminated ground water in the unsaturated zone. The partial excavation alternative, would, however, be much less costly than complete excavation and it would be significantly less disruptive to the community, since there would be much less truck traffic (transporting excavated soils off-site for disposal and clean soils on-site for restoration), sheet piling would not have to be installed, and the duration of excavation activities would be shorter.

Ground Water Enhancement

The ground-water extraction and treatment system selected in the ROD calls for the installation of three on-site and six off-site ground-water extraction wells to pump approximately one million gallons of contaminated ground water a day to an on-site air stripper treatment system; the treated water is to be discharged to Ligonee Brook. In an attempt to enhance the effect of the ground-water extraction and treatment system on the contaminated ground water and soils, a series of air sparging wells will also be installed in the contaminated saturated soils. This system will bubble air below the water table to volatilize the solvents contaminating the ground water and soils. The volatilized solvents will be drawn up through the unsaturated soils by a series of SVE wells and passed through activated carbon units. Air monitoring of these units will continue for as long as the system remains operational. Monitoring of the ground water for VOCs will also be performed to insure that the ground water reaches ground-water standards.

SUPPORT AGENCY COMMENTS

NYSDEC and the New York State Department of Health, after careful consideration of the modified remedy, supports the modified remedy due to the environmental, public health, and technical advantages, and due to the fact that the modified remedy significantly changes but does not fundamentally alter the remedy selected in the ROD .

AFFIRMATION OF STATUTORY DETERMINATIONS

Considering the new information that has been developed and the changes that have been made to the selected remedy, EPA and NYSDEC believe that the remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective. In addition, the modified remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable for this site.

PUBLIC PARTICIPATION

EPA and NYSDEC rely on public input to ensure that the concerns of the community are considered in selecting an effective remedy for each Superfund site. To this end, this ESD is being made available to the public for review and comment. Comments or questions should be submitted to:

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